

U.S. Department of the Interior  
Bureau of Land Management  
White River Field Office  
73544 Hwy 64  
Meeker, CO 81641

## ENVIRONMENTAL ASSESSMENT

**NUMBER:** CO-110-2005-143-EA

**CASEFILE/PROJECT NUMBER** (optional): CO57699

**PROJECT NAME:** KGH Gilsonite Hills 24-2

**LEGAL DESCRIPTION:** T1S, R104W, Sec. 24

**APPLICANT:** KGH Operating Company

**ISSUES AND CONCERNS** (optional): Because the proposed action includes disturbing saline soils with slopes greater than 35%, well pad and road construction related activities may result in extensive erosion. Mitigation has been identified that would reduce soil erosion, and an engineered construction/reclamation plan will be submitted by the operator prior to construction of the well pad and access road.

**DESCRIPTION OF PROPOSED ACTION AND ALTERNATIVES:**

***Background/Introduction:*** The proposed location for the well pad and access road would be in the Gilsonite Hills region of the resource area. The elevation at the proposed location for the well pad and access road is 6,006 feet. Dominant vegetation consists of Wyoming big sagebrush (*Artemisia tridentata* var. *wyomingensis*). Well density at the proposed location is 3.28 producing wells per square mile, while road density equals approximately 2.71 miles of road per square mile.

**Proposed Action:** The applicant proposes to construct a well pad with dimensions of 175 x 140 feet (0.56 acres). Total area disturbed to construct the pad will be approximately 1.25 acres. In addition, the applicant proposes to construct approximately 40 x 1,056 feet (0.97 acres) of new road to access the proposed well pad. Total disturbed area to accommodate both the well pad and access road will equal approximately 2.22 acres.

Plans for improvement and/or maintenance of existing roads are to maintain in as good or better conditions than at present. Access roads and surface disturbing activities will conform to standards outlined in the USGS publication (1978) Surface Operation Standards for Oil and Gas Development.

Water will be transported by truck from the Wardell Ranch on the White River. Arrangements have been made with Barry Wardell for water and access.

Produced waste water could be confined to the pit for a period of 90 days after initial production. During the 90 day period the required waste analysis will be submitted for the Authorized Officer's approval, pursuant to Onshore Oil and Gas Order No. 7 (NTL-2B). A permanent steel tank will be installed in the ground next to the production facilities to contain any produced water for the duration of the well. Drilling fluids and chemicals will be contained in the reserve pit.

Water based reserve pit fluids will be backfilled within one year of construction or by the end of the succeeding summer to allow for evaporation of fluids unless an alternative method of disposal is approved. The backfilling of the reserve pit will be done in such a manner that the mud and associated solids will be confined to the pit and not squeezed out and incorporated into the surface materials.

The anticipated start date is 15 July 2005, and the anticipated duration of construction related activities is 12 days.

**No Action Alternative:** The well would not be permitted; there would not be any surface disturbance.

**ALTERNATIVES CONSIDERED BUT NOT CARRIED FORWARD:** None

**NEED FOR THE ACTION:** To respond to request by applicant to exercise lease rights and develop potential hydrocarbon reserves.

**PLAN CONFORMANCE REVIEW:** The Proposed Action is subject to and has been reviewed for conformance with the following plan (43 CFR 1610.5, BLM 1617.3):

Name of Plan: White River Record of Decision and Approved Resource Management Plan (ROD/RMP).

Date Approved: July 1, 1997

Decision Number/Page: Pages 2-5 thru 2-6

Decision Language: "Make federal oil and gas resources available for leasing and development in a manner that provides reasonable protection for other resource values."

**AFFECTED ENVIRONMENT / ENVIRONMENTAL CONSEQUENCES / MITIGATION MEASURES:**

**STANDARDS FOR PUBLIC LAND HEALTH:** In January 1997, Colorado Bureau of Land Management (BLM) approved the Standards for Public Land Health. These standards cover

upland soils, riparian systems, plant and animal communities, threatened and endangered species, and water quality. Standards describe conditions needed to sustain public land health and relate to all uses of the public lands. Because a standard exists for these five categories, a finding must be made for each of them in an environmental analysis. These findings are located in specific elements listed below:

## **CRITICAL ELEMENTS**

### **AIR QUALITY**

*Affected Environment:* The proposed access road and well pad are not located within a ten mile radius of any special designation air sheds or non-attainment areas. The proposed action will have little effect on air quality in the area with exception to dry periods when gusty winds may temporarily increase fugitive dust levels. Overall, construction operations should not greatly compromise National Ambient Air Quality Standards (NAAQS) for particulate matter which calls for a maximum 24-hour average to be less than or equal to 150 µg/m<sup>3</sup>.

*Environmental Consequences of the Proposed Action:* Removal of ground cover will leave soils vulnerable to eolian processes until mitigation is complete. Elevated levels of fugitive dust would be a direct product of strong winds in combination with dry conditions. However, airborne particulate matter should not exceed Colorado air quality standards on an hourly or daily basis.

*Environmental Consequences of the No Action Alternative:* None

*Mitigation:* The operator will be responsible for complying with all local, state, and federal air quality regulations as well as provide documentation to the BLM that they have done so.

To mitigate potential increased levels of fugitive dust, dust abatement measures (e.g. spreading water) should be used during dry periods and times of heavy use. Also, enforcing a recommended speed limit of 15 mph would help lower fugitive dust levels. Following construction, disturbed areas should be promptly revegetated. In addition, woody debris removed during construction should be re-applied as ground cover following completion.

### **CULTURAL RESOURCES**

*Affected Environment:* The proposed well pad location and access road have been inventoried at the Class III (100% pedestrian) level (Conner and Davenport 2005, Compliance Dated 4/20/2005) with no cultural resources identified in the proposed project area.

*Environmental Consequences of the Proposed Action:* The proposed action will not impact any known cultural resources.

*Environmental Consequences of the No Action Alternative:* There would be no new impacts to cultural resources under the No Action Alternative.

*Mitigation:* 1. The operator is responsible for informing all persons who are associated with the project operations that they will be subject to prosecution for knowingly disturbing historic or archaeological sites, or for collecting artifacts. If historic or archaeological materials are uncovered during any project or construction activities, the operator is to immediately stop activities in the immediate area of the find that might further disturb such materials, and immediately contact the authorized officer (AO). Within five working days the AO will inform the operator as to:

- whether the materials appear eligible for the National Register of Historic Places
- the mitigation measures the operator will likely have to undertake before the site can be used (assuming in situ preservation is not necessary)
- a timeframe for the AO to complete an expedited review under 36 CFR 800-11 to confirm, through the State Historic Preservation Officer, that the findings of the AO are correct and that mitigation is appropriate.

If the operator wishes, at any time, to relocate activities to avoid the expense of mitigation and/or the delays associated with this process, the AO will assume responsibility for whatever recordation and stabilization of the exposed materials may be required. Otherwise, the operator will be responsible for mitigation cost. The AO will provide technical and procedural guidelines for the conduct of mitigation. Upon verification from the AO that the required mitigation has been completed, the operator will then be allowed to resume construction.

2. Pursuant to 43 CFR 10.4(g) the holder of this authorization must notify the AO, by telephone, with written confirmation, immediately upon the discovery of human remains, funerary items, sacred objects, or objects of cultural patrimony. Further, pursuant to 43 CFR 10.4(c) and (d), you must stop activities in the vicinity of the discovery and protect it for 30 days or until notified to proceed by the authorized officer.

**INVASIVE, NON-NATIVE SPECIES/RECLAMATION:** (This includes vegetation information related to Public Land Health Standard 3.)

*Affected Environment:* The proposed project is within the salt desert shrub and juniper woodland vegetation associations. The salt desert shrub soils are moderately deep and also derived from shale. This soil is saline which makes for difficult reclamation. The juniper woodland soils in this area are shallow and shale derived. Past reclamation efforts have included non-native species, which have performed well in soil stabilization.

The two noxious weeds found in this area are halogeton and cheatgrass. Both of these species are found throughout the area. Halogeton has the ability to rapidly colonize disturbed areas, but is easily controlled by successful revegetation. Cheatgrass is found throughout the area in all of the plant communities. This specie can hinder reclamation because of its highly competitive nature. Non-native species have been shown to out-compete cheatgrass. Noxious weeds, such

as knapweeds, transported on site by construction equipment and support vehicles would also be of concern.

*Impact of Proposed Action:* Using the proposed non-native seed mix would adequately stabilize soils. These species have not been shown to move off site or to interbreed with adjacent plant species.

With prompt control of any noxious weeds that occur on the project area there would not be any adverse impacts to the adjacent plant communities. Prompt reclamation would prevent cheatgrass and halogeton from establishing.

*Impact of No Action Alternative:* There would be no impacts.

*Mitigation:* Use Seed Mix #2 for reclamation. In accordance with Condition of Approval #179 from Appendix B of the White River ROD/RMP, application of herbicides must be under field supervision of an EPA-certified pesticide applicator. Herbicides must be registered by the EPA and application proposals must be approved by the BLM.

## **MIGRATORY BIRDS**

*Affected Environment:* The project area consists primarily of stunted, open-canopied juniper-dominated woodlands intermixed with mixed Wyoming big sagebrush shrublands. There are a number of migratory birds that fulfill nesting functions in these types from May through mid-July, including several species identified as having higher conservation interest by the Rocky Mountain Bird Observatory, Partners in Flight program (e.g., gray flycatcher, juniper titmouse, black-throated gray warbler). These and more common, generalized species associated with these habitats (e.g., house finch, chipping sparrow, lark sparrow, vesper sparrow, and spotted towhee) are widely represented at appropriate densities in extensive suitable habitats throughout the White River Resource Area.

*Environmental Consequences of the Proposed Action:* Construction, and drilling and completion activities associated with the well pad and access road is scheduled to commence in mid-July 2005 and be completed by August 2005. Based on this schedule, there would be potential to disrupt the nesting activities of migratory birds, and approximately 2.2 acres of nesting habitat would be affected. Based on woodland habitats that would support the highest diversity and density of nesting species, and the fact that construction would occur late in the nesting sequence, it is unlikely that more than 2 nest attempts by birds of higher conservation interest would be influenced by construction or drilling operations.

The development of the reserve pit in the project area may be expected to attract waterfowl and other migratory birds for purposes of resting, foraging, or as a source of free water. It has recently been brought to the White River Field Office's attention that migratory waterfowl (i.e., teal and gadwall) have contacted oil-based drilling fluids stored in reserve pits during or after completion operations and are suffering mortality in violation of the Migratory Bird Treaty Act. The extent and nature of the problem is not well defined, but is being actively investigated by the

federal agencies and the companies. Until the vectors of mortality are better understood, management measures must be conservative and relegated to preventing bird contact with produced water and drilling and completion fluids that may pose a problem (e.g., acute or chronic toxicity, compromised insulation).

*Environmental Consequences of the No Action Alternative:* There would be no action authorized that would have potential to disrupt the breeding activities of migratory birds or expose birds to fluids that pose a mortality risk.

*Mitigation:* The operator shall prevent use by migratory birds of reserve pits that store or are expected to store fluids which may pose a risk to such birds (e.g., migratory waterfowl, shorebirds, wading birds and raptors) during completion and after completion activities have ceased. Methods may include netting, the use of bird-balls, or other alternative methods that effectively prevent use and that meet BLM approval. It will be the responsibility of the operator to notify the BLM of the method that will be used to prevent use two weeks prior to when completion activities are expected to begin. The BLM approved method will be applied within 24 hours after completion activities have begun. All lethal and non-lethal events that involve migratory birds will be reported to the Petroleum Engineer Technician immediately.

#### **THREATENED, ENDANGERED, AND SENSITIVE ANIMAL SPECIES (includes a finding on Standard 4)**

*Affected Environment:* There are no threatened or endangered animals that inhabit or derive important benefit from these sites.

*Environmental Consequences of the Proposed Action:* The proposed action would have no conceivable influence on special status animals or associated habitat.

*Environmental Consequences of the No Action Alternative:* The no action alternative would have no conceivable influence on special status animals or associated habitat.

*Mitigation:* None

*Finding on the Public Land Health Standard for Threatened & Endangered species:* The proposed action would have no effective influence on populations or habitat associated with special status species.

#### **WASTES, HAZARDOUS OR SOLID**

*Affected Environment:* There are no known hazardous or other solid wastes on the subject lands. No hazardous materials are known to have been used, stored or disposed of at sites included in the project area.

*Environmental Consequences of the Proposed Action:* No listed or extremely hazardous materials in excess of threshold quantities are proposed for use in this project. While commercial preparations of fuels and lubricants proposed for use may contain some hazardous constituents, they would be stored, used and transported in a manner consistent with applicable laws, and the generation of hazardous wastes would not be anticipated. Solid wastes would be properly disposed of.

*Environmental Consequences of the No Action Alternative:* No hazardous or other solid wastes would be generated under the no-action alternative.

*Mitigation:* The applicant shall be required to collect and properly dispose of any solid wastes generated by the proposed actions.

## **WATER QUALITY, SURFACE AND GROUND (includes a finding on Standard 5)**

*Affected Environment:* Surface Water: The proposed action is located on a small bench situated on a steep hillside on the west bank of Cottonwood Creek. Cottonwood Creek has been listed as a “fragile watershed” in the White River ROD/RMP. A review of the Colorado's 1989 Nonpoint Source Assessment Report (plus updates), the 305(b) report, the 303(d) list and the Unified Watershed Assessment was done to see if any water quality concerns have been identified. Cottonwood Creek is a tributary to the White River and is listed in stream segment 22 of the White River Basin. The state has designated stream segment 22 as “Use Protected” and further designated it as beneficial for the following uses: Aquatic life warm 2, recreation 1b, and agriculture. The antidegradation review requirements in the Antidegradation Rule are not applicable to waters designated use-protected. For those waters, only the protection specified in each reach will apply. For this reach, minimum standards for four parameters have been listed. These parameters are: dissolved oxygen = 5.0 mg/l, pH = 6.5 - 9.0, Fecal Coliform = 325/100 ml, and 205/100 ml E. coli.

During the onsite evaluation (4/27/05) it was brought to the operators attention that the low water crossing at the junction of the new proposed access road and existing road, would need upgrading. At this time, water was ponding behind the roadway.

Ground Water: A review of the USGS Ground Water Atlas of the United States (HA 730-C) was done to assess ground water resources at the location of the proposed action. The shallowest aquifer underlying the proposed action is the Uinta-Animas aquifer. The Uinta-Animas aquifer at this location consists of the Uinta Formation and the Parachute Creek member of the Green River Formation. During the drilling process it is likely that deep ground water from the Fort Union Formation and Mesaverde Group also be encountered. Local ground water located in alluvial material may also be affected if contaminants are allowed to infiltrate the soils.

*Environmental Consequences of the Proposed Action:* Construction of the proposed access road and well pad will result in erosional problems based on soil type and slope. Cottonwood Creek is listed as a “fragile watershed” due to unstable soils which result in poor stream bank stability. Increased sediment loads will be introduced to Cottonwood Creek due to

head cutting and advanced gully erosion. Increased rates of erosion in the headwaters of the catchment area will compound existing bank stability and sediment issues in the lower reaches.

Without proper drainage relief structures at the existing low water crossing, ponding will still occur and sediment will continue to accumulate behind the roadway. Deposition of sediment on the cut slope portion of the roadway will starve the stream channel of sediment on the fill slope side of the road. The sediment starved portion of the stream channel may develop a large head cut (e.g. “Lane’s Balance”) deteriorating the roadway, creating large sediment plumes to downstream reaches and further destabilizing stream banks in this “fragile watershed”.

Destabilization of the cut slope above the well pad may trigger slope failure which could rupture the reserve pit. Local ground water may be contaminated if a spill results or pit contents are allowed to infiltrate soils. Adverse impacts on deeper ground water are also possible as a result of cross aquifer contamination due to drilling.

*Environmental Consequences of the No Action Alternative:* None

*Mitigation:* The operator will be responsible for complying with all local, state, and federal water quality regulations as well as provide documentation to the BLM that they have done so.

Runoff directed around the pad should be directed in to the nearest active draw to minimize erosion at multiple locations. To mitigate surface erosion due to removal of ground cover at the well pad, stockpiled soils could be covered and silt fences used on the down gradient sides. It is also recommended that upon reclamation flow deflectors and sediment traps (woody debris) be redistributed over the area along with Standard Seed Mix #2.

In addition, it is recommended the existing low water crossing be upgraded in attempts to reduce erosion. Upgrading could include but not limited to, bank armoring and/or installation of stable fill material (size D-85 or midsize gravel at a minimum) and should be reviewed and approved prior to implementation by the authorized officer

The following Conditions of Approval from the White River Rod/RMP should be implemented:

In constructing access roads, proper drainage structures (drain dips, culverts) must be installed to reduce accelerated surface erosion. Culverts will NOT be permitted on slopes less than 10%. To mitigate water being channelized down the roadway, all activity should stop when soils or road surfaces become saturated to a depth of three inches. In addition, mud blading will be prohibited in attempts to reduce further soil displacement.

To minimize consequences to ground water resources all pits should be lined. The cut slope above the reserve pit should be stabilized to reduce slope failure potential and preserve the structural integrity of reserve pits. In addition, all wastes associated with construction and drilling will be properly treated and disposed of. Finally, aquifers beneficial for human consumption encountered during the drilling process must be properly sealed off to reduce potential for contamination.



*Finding on the Public Land Health Standard for water quality:* Cottonwood Creek currently meets water quality standards set by the state for stream segment 22 of the White River Basin. However, the proposed action will likely increase sediment loads to Cottonwood Creek and local ground water risks contamination if problems arise with reserve pits. With implementation of the proposed mitigation the potential for increased sediment and ground water contamination would be reduced. This reduction would allow Cottonwood Creek to continue to meet the state standard for water quality.

## **WETLANDS AND RIPARIAN ZONES (includes a finding on Standard 2)**

*Affected Environment:* The area adjacent to the proposed project area does not support riparian or wetland communities. Furthermore, riparian or wetland communities will not be directly involved or potentially affected by the proposed action.

*Environmental Consequences of the Proposed Action:* The proposed action would have no conceivable influence on riparian or wetland communities.

*Environmental Consequences of the No Action Alternative:* The no-action alternative would not have any conceivable influence on riparian or wetland communities.

*Mitigation:* None

*Finding on the Public Land Health Standard for riparian systems:* This project would have no conceivable potential for influencing riparian attributes addressed in the Standards.

## **CRITICAL ELEMENTS NOT PRESENT OR NOT AFFECTED:**

No ACEC's, flood plains, prime and unique farmlands, or Wild and Scenic Rivers, threatened, endangered or sensitive plants exist within the area affected by the proposed action. For threatened, endangered and sensitive plant species Public Land Health Standard is not applicable since neither the proposed nor the no-action alternative would have any influence on populations of, or habitats potentially occupied by, special status plants. There are also no Native American religious or environmental justice concerns associated with the proposed action.

## **NON-CRITICAL ELEMENTS**

The following elements **must** be addressed due to the involvement of Standards for Public Land Health:

### **SOILS (includes a finding on Standard 1)**

*Affected Environment:* The following data is a product of an order III soil survey conducted by the Natural Resource Conservation Service (NRCS). The accompanying table highlights important soil characteristics. A complete summary of this information can be found at the White River Field Office.

Soil Number	Soil Name	Slope	Ecological site	Salinity	Run Off	Erosion Potential	Bedrock
74	Rentsac-Moyerson-Rock Outcrop complex	5-65%	PJ Woodlands/ Clayey Slopes	<2	Medium	Moderate to very high	10-20

Fragile soils (CSU-1) will be encountered over approximately the first 425' of the proposed access road.

The *Rentsac-Moyerson-Rock outcrop complex* can be found on foothills and ridges. Areas are irregular in shape and are 160 to 5,000 acres in size. The native vegetation is mainly pinyon and juniper trees with an understory of shrubs and grasses. The Rentsac soil is shallow and well drained. It formed in residuum derived dominantly from sandstone. Typically, the surface layer is grayish brown channery loam about 5 inches thick. The next layer is brown very channery loam about 4 inches thick. The underlying material is very pale brown extremely flaggy loam 7 inches thick. Sandstone is at a depth of 16 inches. Depth to sandstone ranges from 10 to 20 inches. In some areas the surface layer is quite variable in texture. Permeability of the Rentsac soil is moderately rapid. Available water capacity is very low. Effective rooting depth is 10 to 20 inches. Runoff is medium, and the hazard of water erosion is moderate to very high.

The Moyerson soil is shallow and well drained. It formed in residuum derived dominantly from shale. Typically, the surface layer is light gray stony clay loam about 2 inches thick. The next layer is gray clay loam about 8 inches thick. The underlying material is gray clay 7 inches thick. Shale is at a depth of 17 inches. Depth to shale ranges from 10 to 20 inches. In some areas the surface layer is silty clay loam, silty clay, light clay, or bouldery clay loam. Permeability of the Moyerson soil is slow. Available water capacity is low. Effective rooting depth is 10 to 20 inches. Runoff is medium to rapid, and the hazard of water erosion is very high.

*Environmental Consequences of the Proposed Action:* The proposed construction site was visited and it was noted in the field that erosional problems will exist over portions of the access road and well pad. Steep slopes combined with soils that have low water capacity may result in slope failures and require constant maintenance during wet periods. Four small draws will be encountered during road construction and at each of these locations head-cutting may develop. During wet times, ruts may develop with increased traffic causing water to be channelized down the roadway developing head cuts at locations water exits the roadway.

The well pad is situated on a small bench on the otherwise steep hill side. The extensive cut (~20') required for construction on the southwest corner of the pad could destabilize the hillside at that location. With wet conditions, portions of the hillside situated upslope of the pad (CSU-1 fragile soils) will have increased potential for slope failures. A large slump over this portion of the well pad would likely rupture the reserve pit allowing contaminants (if present) to have a direct route to local ground water and the stream channel below. In addition, water diverted

around the well pad will likely result in head-cutting as it spills off the more gently sloping bench on to the steep hillside.

*Environmental Consequences of the No Action Alternative:* None

*Mitigation:* As stated in the White River ROD/RMP, surface disturbing activities on fragile soils with slopes greater than 35 percent will be allowed only after an engineered construction/reclamation plan is submitted by the operator and approved by the Field Manager.

A well engineered access road (e.g. using drain dips and culverts) will help mitigate erosional problems associated with runoff. All activity should stop when soils or road surfaces become saturated to a depth of three inches. No mud blading of roads will be permitted.

Silt fences could be necessary down gradient of portions of the access road and around the entire down gradient side of the well pad. Stockpiled soils should be covered to reduce soil vulnerability to wind and rain. In addition, stockpiled soils located on slopes greater than 5 percent should be accompanied by a berm or trench on the down gradient side. The use of biodegradable netting (e.g. Jute) is recommended as an additional stabilization measure for slopes highly susceptible to erosion.

The hill slope above the well pad will need to be stabilized to reduce the potential for slope failure. Runoff directed around the pad should be directed into the nearest active draw to minimize erosion at multiple locations. In this case it is also recommended that the hill slope be re-contoured as close to the original grade as possible (while still allowing access) in attempts to stabilize the cut slope. Following abandonment of the site, the entire pad and access road should be re-contoured to original grade, promptly seeded with Standard Seed Mix #2, and partially covered with debris to complete the reclamation process.

*Finding on the Public Land Health Standard for upland soils:* At the present time, infiltration and permeability rates are within the appropriate range for the soil type at this location. Ground cover was found to be sufficient, plant diversity was acceptable and gullies were not severely incised.

Construction of the access road and well pad may deteriorate the health of upland soils at the location by redirecting water from its normal drainage patterns causing significant gully erosion. In addition, construction of the well pad and access road will further decrease soil infiltration and permeability rates. Any leaks or spills of contaminants which are allowed to contact soils may inhibit revegetation efforts.

With implementation of the proposed mitigation and successful reclamation the problems identified with the proposed action would be minimized, allowing the upland soils to continue to meet state standards.

**VEGETATION** (includes a finding on Standard 3)

*Affected Environment:* The project area is primarily salt desert shrub with junipers growing on ridgetops. These salt desert shrub vegetation associations are on sites with relatively clayey soils, high salt content and relatively low precipitation 10-12 inches. Junipers are found on shallow, rocky soils primarily ridge tops.

*Environmental Consequences of the Proposed Action:* Following reclamation these vegetation sites have relatively good success at establishment of perennial vegetation cover. The salt desert shrub type should be adequately reclaimed in 3-5 years with the native community dominating within 20 years. The juniper woodland would establish cover suitable for soil retention within 3-5 years and initial establishment of junipers in 15-20 years. Development of a late seral community would take 150-200 years.

*Environmental Consequences of the No Action Alternative:* There would be no impacts.

*Mitigation:* Use Standard Seed Mix #2 from the White River ROD/RMP:

Seed Mix #	Species (Variety)	Lbs PLS/ Acre	Ecological Sites
2	Western wheatgrass (Arriba)	3	Alkaline Slopes, Clayey Foothills, Clayey Slopes, Claypan, Mountain Shale
	Pubescent wheatgrass (Luna)	2	
	Russian wildrye (Bozoisky)	2	
	Crested wheatgrass (Fairway/Ephraim)	2	
	Yellow sweetclover (Madrid)	0.5	
	Fourwing saltbush (Wytana/Rincon)	2	
	<i>Alternates: Winterfat</i>		

*Finding on the Public Land Health Standard for plant and animal communities* (partial, see also Wildlife, Aquatic and Wildlife, Terrestrial): The above described plant communities meet the standards for plant health. This status will not change with the proposed action.

## **WILDLIFE, AQUATIC** (includes a finding on Standard 3)

*Affected Environment:* The proposed locations are separated from warm-water aquatic communities supported by the lower White River by approximately 8 miles of ephemeral channel.

*Environmental Consequences of the Proposed Action:* Separated by approximately 8 miles of ephemeral channel, there is no reasonable likelihood that aquatic habitats associated with downstream perennial systems would be influenced by proposed well and road construction.

*Environmental Consequences of the No Action Alternative:* There would be no immediate action authorized that would have potential to affect wetland or riparian communities.

*Mitigation:* None

*Finding on the Public Land Health Standard for plant and animal communities* (partial, see also Vegetation and Wildlife, Terrestrial): Because there are no aquatic habitats or animals potentially

influenced by the proposed or no-action alternatives, a land health standard finding is not applicable. The proposed and no action alternatives would have no measurable influence on aquatic habitats associated with downstream systems.

## **WILDLIFE, TERRESTRIAL** (includes a finding on Standard 3)

*Affected Environment:* The proposed location for 24-2 is situated in stunted, open-canopied pinyon-juniper woodlands with minor inclusions of mixed Wyoming big sagebrush and shadscale-saltbush parks.

The pad and access road location was inspected by BLM biologists for evidence of raptor nesting activity on 27 April 2005. The stunted, open-canopied and juniper dominated stands typically involve shaley substrates or poorly developed understories and contain few larger-diameter trees that provide spreading crowns preferred as raptor nest substrate. No evidence of past or recent raptor nest activity was found during on-site surveys.

The proposed location for the well pad and access road include deer and elk winter range. These ranges sustain big game use from November through early May. Current road densities are moderate (2.71 miles of road per square mile) in the project vicinity and meet the road density objectives established in the White River ROD/RMP (i.e., road densities of 3 miles/square mile on big game ranges, White River ROD/RMP, page 2-29).

Non-game wildlife using this area are typical and widely distributed in extensive like habitats across the Resource Area and northwest Colorado; there are no narrowly endemic or highly specialized species known to inhabit those lands potentially influenced by this action.

*Environmental Consequences of the Proposed Action:* Well and road construction related activities would be completed in late summer and early fall prior to big game occupation. Well maintenance and monitoring activities during the winter and early spring months would result in minor and temporary displacement of animals and disuse of local forage and cover resources by big game, particularly elk. Long term occupation of these lands and the reduction in the herbaceous and woody forage base for big game (about 2.2 acres) would be discountable at the landscape level. Similarly, the loss of forage and cover for non-game animals would be negligible.

*Environmental Consequences of the No Action Alternative:* No immediate action would be authorized that would involve the adverse modification of terrestrial wildlife habitats.

*Mitigation:* None

*Finding on the Public Land Health Standard for plant and animal communities* (partial, see also Vegetation and Wildlife, Aquatic): The project area presently meets the public land health standards for terrestrial animal communities. As conditioned, the proposed action would have negligible long term influence on the utility or function of big game, raptor, or non-game habitats surrounding the proposed location for the well pad and access road. In an overall context, lands

affected by the no-action or proposed action would continue to meet the land health standard for terrestrial animals.

**OTHER NON-CRITICAL ELEMENTS:** For the following elements, only those brought forward for analysis will be addressed further.

Non-Critical Element	NA or Not Present	Applicable or Present, No Impact	Applicable & Present and Brought Forward for Analysis
Access and Transportation			X
Cadastral Survey	X		
Fire Management		X	
Forest Management		X	
Geology and Minerals			X
Hydrology/Water Rights	X		
Law Enforcement		X	
Noise		X	
Paleontology			X
Rangeland Management			X
Realty Authorizations		X	
Recreation			X
Socio-Economics		X	
Visual Resources			X
Wild Horses	X		

## ACCESS AND TRANSPORTATION

*Affected Environment:* Proposed action is located within an area open seasonally to cross country motorized travel from May 1 through September 30.

*Environmental Consequences of the Proposed Action:* An increase in traffic along access road is expected during construction phase of proposed action and traffic will continue to this location at a lower traffic level for as long as well is producing.

*Environmental Consequences of the No Action Alternative:* None.

*Mitigation:* None.

## GEOLOGY AND MINERALS

*Affected Environment:* The surface geologic formation of the proposed well 24-2 is Green River. The targeted zone for this well is in the Mancos. The well is located on federal oil

and gas lease COC-8705. During drilling potential water, coal, oil and gas zones will be encountered from surface to the targeted zone.

*Environmental Consequences of the Proposed Action:* The cementing procedure for wells 24-2 isolates the formations and will prevent the migration of gas, water, and oil between formations. Coal zones located in the Mesaverde will also be isolated during this procedure. Development of this well will deplete the hydrocarbon resources in the targeted formation

*Environmental Consequences of the No Action Alternative:* The oil and gas resources of the targeted zones would not be fully developed.

*Mitigation:* None

## PALEONTOLOGY

*Affected Environment:* The proposed well pad location and access road are located in an area generally mapped as the Douglas Creek member of the Green River Formation (Tweto 1979) which the BLM has classified as a Condition II formation meaning that the fossil bearing potential of the formation is not well understood in the area.

*Environmental Consequences of the Proposed Action:* If it becomes necessary to excavate into the underlying rock formation there is an unknown potential to impact scientifically important fossil resources.

*Environmental Consequences of the No Action Alternative:* There would be no new impacts to fossil resources under the No Action Alternative.

*Mitigation:* 1. The operator is responsible for informing all persons who are associated with the project operations that they will be subject to prosecution for knowingly disturbing paleontological sites, or for collecting fossils. If fossil materials are uncovered during any project or construction activities, the operator is to immediately stop activities in the immediate area of the find that might further disturb such materials, and immediately contact the authorized officer (AO). Within five working days the AO will inform the operator as to:

- whether the materials appear to be of noteworthy scientific interest
- the mitigation measures the operator will likely have to undertake before the site can be used (assuming in situ preservation is not feasible)

If the operator wishes, at any time, to relocate activities to avoid the expense of mitigation and/or the delays associated with this process, the AO will assume responsibility for whatever recordation and stabilization of the exposed materials may be required. Otherwise, the operator will be responsible for mitigation cost. The AO will provide technical and procedural guidelines for the conduct of mitigation. Upon verification from the AO that the required mitigation has been completed, the operator will then be allowed to resume construction.

## **RANGELAND MANAGEMENT**

*Affected Environment:* The proposed project is within the Banta Flats allotment. This allotment is grazed by sheep during the winter and spring.

*Impact of Proposed Action:* The proposed project would remove one animal unit month (AUM) of important forage for livestock during the life of the project. Halogeton was discussed in the noxious weed section. This weed is highly toxic to sheep. If disturbed soils are reclaimed promptly there would not be a problem with this weed. Using sheep wire on all pits would prevent access to livestock.

*Impact of No Action Alternative:* There would be no adverse impacts.

*Mitigation:* The operator will install sheep wire fencing to prevent livestock from accessing all constructed pits. Also, in accordance with Condition of Approval #181 from Appendix B of the White River ROD/RMP, reclamation should be implemented concurrent with construction and site operations to the fullest extent possible. Final reclamation actions shall be initiated within six months of the termination of operations unless otherwise approved in writing by the Authorized officer.

## **RECREATION**

*Affected Environment:* The proposed action occurs within the White River Extensive Recreation Management Area (ERMA). BLM custodially manages the ERMA to provide for unstructured recreation activities such as hunting, dispersed camping, hiking, horseback riding, wildlife viewing and off-highway vehicle use.

The project areas area has been delineated/most resembles a Recreation Opportunity Spectrum (ROS) class of Semi-Primitive Motorized (SPM). SPM physical and social recreation setting is typically characterized by a natural appearing environment with few administrative controls, low interaction between users but evidence of other users may be present. SPM recreation experience is characterized by a high probability of isolation from the sights and sounds of humans that offers an environment that offers challenge and risk.

*Environmental Consequences of the Proposed Action:* The public will lose approximately 5 acres of dispersed recreation potential while wells are in operation. The public will most likely not recreate in the vicinity of these facilities and will be dispersed elsewhere. If action coincides with hunting seasons (September through November) it will most likely disrupt the experience sought by those recreationists.

With the introduction of new well pads and roads, an increase of traffic could be expected increasing the likelihood of human interactions, the sights and sounds associated with the human environment and a less naturally appearing environment.



*Environmental Consequences of the No Action Alternative:* No loss of dispersed recreation potential and no impact to hunting recreationists.

*Mitigation:* None.

## **VISUAL RESOURCES**

*Affected Environment:* The proposed action is located in an area with a VRM II classification. The objective of this class is to retain the existing character of the landscape. The level of change to the characteristic landscape should be low. Management activities may be seen, but should not attract the attention of the casual observer. Any changes must repeat the basic elements of form, line, color, and texture found in the predominant natural features of the characteristic landscape.

*Environmental Consequences of the Proposed Action:* The proposed action is located on a bench and slope below the ridge top and within sagebrush with a back drop of scattered woody vegetation comprised mostly of Pinyon/Juniper. There are no major routes of travel in the area that would be frequented by a casual observer. Dirt roads in the area are utilized primarily for activity associated with energy development and seasonally by big game hunters in the fall. By utilizing low profile production facilities and painting all production equipment Juniper Green to mimic the surrounding and adjacent vegetation, a casual observer could see the change to the character of the landscape, but the change should not attract his/her attention. The level of change to the characteristic landscape should be low, and the standards of the VRM II classification would be retained.

*Environmental Consequences of the No Action Alternative:* There would be no impacts.

*Mitigation:* All above ground facilities shall be low profile and painted Juniper Green to blend with the surrounding environment.

**CUMULATIVE IMPACTS SUMMARY:** This action is consistent with the scope of impacts addressed in the White River ROD/RMP. The cumulative impacts of these activities are addressed in the White River ROD/RMP for each resource value that would be affected by the proposed action.

## **REFERENCES CITED:**

Conner, Carl E. and Barbara J. Davenport

- 2005 Class III Cultural Resource Inventory Report for Three Proposed Well Locations (Fed. #24-2, Fed. #26-4 and Fed. #26-5) and 2.0 Miles of New and To-be-upgraded Access Roads in the Gilsonite Hills Area of Rio Blanco County, Colorado for KGH Operating Company. Grand River Institute, Grand Junction, Colorado.

Tweto, Ogden

1979 Geologic Map of Colorado. United States Geologic Survey, Department of the Interior, Reston, Virginia.

**PERSONS / AGENCIES CONSULTED:** None

**INTERDISCIPLINARY REVIEW:**

<b>Name</b>	<b>Title</b>	<b>Area of Responsibility</b>
Nate Dieterich	Hydrologist	Air Quality
Tamara Meagley	Natural Resource Specialist	Areas of Critical Environmental Concern
Tamara Meagley	Natural Resource Specialist	Threatened and Endangered Plant Species
Michael Selle	Archeologist	Cultural Resources Paleontological Resources
Robert Fowler	Rangeland Management Specialist	Invasive, Non-Native Species
Brett Smithers	Natural Resource Specialist	Migratory Birds
Brett Smithers	Natural Resource Specialist	Threatened, Endangered and Sensitive Animal Species, Wildlife
Bo Brown	Petroleum Engineer Tech/Hazmat Collateral	Wastes, Hazardous or Solid
Nate Dieterich	Hydrologist	Water Quality, Surface and Ground Hydrology and Water Rights
Brett Smithers	Natural Resource Specialist	Wetlands and Riparian Zones
Chris Ham	Outdoor Recreation Planner	Wilderness
Nate Dieterich	Hydrologist	Soils
Robert Fowler	Rangeland Management Specialist	Vegetation
Brett Smithers	Natural Resource Specialist	Wildlife Terrestrial and Aquatic
Chris Ham	Outdoor Recreation Planner	Access and Transportation
Ken Holsinger	Natural Resource Specialist	Fire Management
Robert Fowler	Forester	Forest Management
Paul Daggett	Mining Engineer	Geology and Minerals
Robert Fowler	Rangeland Management Specialist	Rangeland Management
Linda Jones	Realty Specialist	Realty Authorizations
Chris Ham	Outdoor Recreation Planner	Recreation
Keith Whitaker	Natural Resource Specialist	Visual Resources
Valerie Dobrich	Natural Resource Specialist	Wild Horses

# **Finding of No Significant Impact/Decision Record (FONSI/DR)**

**CO-110-2005-143-EA**

**FINDING OF NO SIGNIFICANT IMPACT (FONSI)/RATIONALE:** The environmental assessment and analyzing the environmental effects of the proposed action have been reviewed. The approved mitigation measures (listed below) result in a Finding of No Significant Impact on the human environment. Therefore, an environmental impact statement is not necessary to further analyze the environmental effects of the proposed action.

**DECISION/RATIONALE:** It is my decision to approve the proposed action with the mitigation measures listed below.

## **MITIGATION MEASURES:**

1. The operator will be responsible for complying with all local, state, and federal air quality regulations as well as provide documentation to the BLM that they have done so.
2. To mitigate potential increased levels of fugitive dust, dust abatement measures (e.g. spreading water) will be used during dry periods and times of heavy use. Also, a speed limit of 15 mph will be enforced to help lower fugitive dust levels. Following construction, disturbed areas will be promptly revegetated. In addition, woody debris removed during construction shall be re-applied as ground cover following completion.
3. The operator is responsible for informing all persons who are associated with the project operations that they will be subject to prosecution for knowingly disturbing historic or archaeological sites, or for collecting artifacts. If historic or archaeological materials are uncovered during any project or construction activities, the operator is to immediately stop activities in the immediate area of the find that might further disturb such materials, and immediately contact the authorized officer (AO). Within five working days the AO will inform the operator as to:
  - whether the materials appear eligible for the National Register of Historic Places
  - the mitigation measures the operator will likely have to undertake before the site can be used (assuming in situ preservation is not necessary)
  - a timeframe for the AO to complete an expedited review under 36 CFR 800-11 to confirm, through the State Historic Preservation Officer, that the findings of the AO are correct and that mitigation is appropriate.

If the operator wishes, at any time, to relocate activities to avoid the expense of mitigation and/or

the delays associated with this process, the AO will assume responsibility for whatever recordation and stabilization of the exposed materials may be required. Otherwise, the operator will be responsible for mitigation cost. The AO will provide technical and procedural guidelines for the conduct of mitigation. Upon verification from the AO that the required mitigation has been completed, the operator will then be allowed to resume construction.

4. Pursuant to 43 CFR 10.4(g) the holder of this authorization must notify the AO, by telephone, with written confirmation, immediately upon the discovery of human remains, funerary items, sacred objects, or objects of cultural patrimony. Further, pursuant to 43 CFR 10.4(c) and (d), you must stop activities in the vicinity of the discovery and protect it for 30 days or until notified to proceed by the authorized officer.

5. Use Seed Mix #2 for reclamation. In accordance with Condition of Approval #179 from Appendix B of the White River ROD/RMP, application of herbicides must be under field supervision of an EPA-certified pesticide applicator. Herbicides must be registered by the EPA and application proposals must be approved by the BLM.

6. The operator shall prevent use by migratory birds of reserve pits that store or are expected to store fluids which may pose a risk to such birds (e.g., migratory waterfowl, shorebirds, wading birds and raptors) during completion and after completion activities have ceased. Methods may include netting, the use of bird-balls, or other alternative methods that effectively prevent use and that meet BLM approval. It will be the responsibility of the operator to notify the BLM of the method that will be used to prevent use two weeks prior to when completion activities are expected to begin. The BLM approved method will be applied within 24 hours after completion activities have begun. All lethal and non-lethal events that involve migratory birds will be reported to the Petroleum Engineer Technician immediately.

7. The applicant shall be required to collect and properly dispose of any solid wastes generated by the proposed actions.

8. The operator will be responsible for complying with all local, state, and federal water quality regulations as well as provide documentation to the BLM that they have done so.

9. As stated in the White River ROD/RMP, surface disturbing activities on fragile soils with slopes greater than 35 percent will be allowed only after an engineered construction/reclamation plan is submitted by the operator and approved by the Field Manager.

10. Runoff directed around the pad shall be directed into the nearest active draw to minimize erosion at multiple locations. To mitigate surface erosion due to removal of ground cover at the well pad, stockpiled soils shall be covered and silt fences used on the down gradient sides. Upon reclamation, flow deflectors and sediment traps (woody debris) be redistributed over the area along with Standard Seed Mix #2.

11. The existing low water crossing will be upgraded in attempts to reduce erosion. Upgrading could include but not limited to, bank armoring and/or installation of stable fill material (size D-

85 or midsize gravel at a minimum) and will be reviewed and approved prior to implementation by the authorized officer

12. A well engineered access road (e.g. using drain dips and culverts) will help mitigate erosional problems associated with runoff. Implementing the following Conditions of Approval from the White River Rod/RMP will help mitigate this action:

- In constructing access roads, proper drainage structures (drain dips, culverts) must be installed to reduce accelerated surface erosion. Culverts will NOT be permitted on slopes less than 10%.
- To mitigate water being channelized down the roadway, all activity will stop when soils or road surfaces become saturated to a depth of three inches. In addition, mud blading will be prohibited in attempts to reduce further soil displacement.

13. To minimize consequences to ground water resources all pits will be lined. The cut slope above the reserve pit shall be stabilized to reduce slope failure potential and preserve the structural integrity of reserve pits. Any aquifers beneficial for human consumption encountered during the drilling process must be properly sealed off to reduce potential for contamination.

14. Stockpiled soils shall be covered to reduce soil vulnerability to wind and rain. In addition, stockpiled soils located on slopes greater than 5 percent shall be accompanied by a berm or trench on the down gradient side. The use of biodegradable netting and/or silt fences (e.g. Jute) will be used as an additional stabilization measure for slopes highly susceptible to erosion and slopes on the down gradient side of the well pad.

15. The hill slope above the well pad will need to be stabilized to reduce the potential for slope failure. For the interim, the hill slope will be re-contoured to as close to the original grade as possible (while still allowing access) in attempts to stabilize the cut slope. Following abandonment of the site, the entire pad and access road should be re-contoured to original grade, promptly seeded with the recommended seed mix, and partially covered with debris to complete the reclamation process.

16. The operator is responsible for informing all persons who are associated with the project operations that they will be subject to prosecution for knowingly disturbing paleontological sites, or for collecting fossils. If fossil materials are uncovered during any project or construction activities, the operator is to immediately stop activities in the immediate area of the find that might further disturb such materials, and immediately contact the authorized officer (AO). Within five working days the AO will inform the operator as to:

- whether the materials appear to be of noteworthy scientific interest
- the mitigation measures the operator will likely have to undertake before the site can be used (assuming in situ preservation is not feasible)

17. If the operator wishes, at any time, to relocate activities to avoid the expense of mitigation and/or the delays associated with this process, the AO will assume responsibility for whatever

recordation and stabilization of the exposed materials may be required. Otherwise, the operator will be responsible for mitigation cost. The AO will provide technical and procedural guidelines for the conduct of mitigation. Upon verification from the AO that the required mitigation has been completed, the operator will then be allowed to resume construction.

18. The operator will install sheep wire fencing to prevent livestock from accessing all constructed pits. Also, in accordance with Condition of Approval #181 from Appendix B of the White River ROD/RMP, reclamation should be implemented concurrent with construction and site operations to the fullest extent possible. Final reclamation actions shall be initiated within six months of the termination of operations unless otherwise approved in writing by the Authorized officer.

19. All above ground facilities shall be low profile and painted Juniper Green to blend with the surrounding environment.

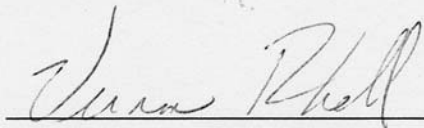
20. Use Standard Seed Mix #2 from the White River ROD/RMP:

Seed Mix #	Species (Variety)	Lbs PLS/ Acre	Ecological Sites
2	Western wheatgrass (Arriba)	3	Alkaline Slopes, Clayey Foothills, Clayey Slopes, Claypan, Mountain Shale
	Pubescent wheatgrass (Luna)	2	
	Russian wildrye (Bozoisky)	2	
	Crested wheatgrass (Fairway/Ephraim)	2	
	Yellow sweetclover (Madrid)	0.5	
	Fourwing saltbush (Wytana/Rincon)	2	
	Alternates: Winterfat		

**NAME OF PREPARER:** Brett Smithers

**NAME OF ENVIRONMENTAL COORDINATOR:** Caroline Hollowed

**SIGNATURE OF AUTHORIZED OFFICIAL:**

  
Field Manager

**DATE SIGNED:**

7/8/05

**ATTACHMENTS:** Location map of the proposed action.

# Location of Proposed Action CO-110-2005-143-EA

